

SEQUENCE LISTING

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<120> A NOVEL HUMAN G-PROTEIN COUPLED RECEPTOR, HGPRBMY4,  
EXPRESSED HIGHLY IN PROSTATE, COLON, AND LUNG

<130> D0039NP/3053-4117US3

<140> TBA  
<141> 2001-09-26

<150> 60/235,833  
<151> 2000-09-27

<150> 60/261,776  
<151> 2001-01-16

<150> 60/305,351  
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<150> 60/313,202  
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<170> PatentIn Ver. 2.1

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<212> DNA  
<213> Homo sapiens

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<211> 318

<212> PRT

<213> Homo sapiens

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Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala Phe  
20 25 30

Pro Leu Cys Ser Leu Tyr Leu Ile Ala Val Leu Gly Asn Leu Thr Ile  
35 40 45

Ile Tyr Ile Val Arg Thr Glu His Ser Leu His Glu Pro Met Tyr Ile  
50 55 60

Phe Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile Ser Thr Ser Ser  
65 70 75 80

Met Pro Lys Met Leu Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln  
85 90 95

Phe Asp Ala Cys Leu Leu Gln Met Phe Ala Ile His Ser Leu Ser Gly  
100 105 110

Met Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala  
115 120 125

Ile Cys His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val  
130 135 140

Thr Lys Ile Gly Val Ala Ala Val Val Arg Gly Ala Ala Leu Met Ala  
145 150 155 160

Pro Leu Pro Val Phe Ile Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile  
165 170 175

Leu Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys  
180 185 190

Asp Asp Ile Arg Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser  
195 200 205

Ala Ile Gly Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile  
210 215 220

Leu Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe  
225 230 235 240

Gly Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro  
245 250 255

Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser  
260 265 270

Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val  
275 280 285

Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg  
290 295 300

Ile Leu Arg Leu Phe His Val Ala Thr His Ala Ser Glu Pro  
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<213> Homo sapiens

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caaatatgaa actgggttggg gaatctccat ttttcaata ttatttctt ctttgggtttc 180  
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agaatggta atctagagaa catttgc当地 aggcttaagc acggcaaaagg aaaataaaaca 360  
cagaatataa taaaatgaga taatcttagt taaaactata acttcctctt cagaactccc 420  
aaccacattt gatctc当地 aaatactgtc ttcaaaatga cttctacaga gaagaaataa 480  
ttttcctctt ggacacttagc acttaagggg aagattggaa gtaaaggctt gaaaagagta 540  
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ccctcattgt agccatggaa aaattgtatgt tcagtggggta tcagtgaatt aaatgggtc 720  
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gccttagaaca taatagtgc tatgcttgac accggattt tttcatcaaa cctgattcct 1680  
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gttacacaga gtaaatcacc agaaggctgg atttctgaaa aaactgtgca gagccaaacc 1920  
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gtactattgt gtcaagtcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 2034

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oligos

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tatggaagga atgtgtgacc. 80

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<213> Artificial Sequence

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oligos

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oligos

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<211> 311  
<212> PRT  
<213> MOUSE

<400> 8

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20 25 30

Tyr Phe Ser Ile Ile Val Gly Asn Gly Thr Leu Leu Phe Ile Ile Trp  
 35 40 45

Ser Asp His Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Val Leu  
 50 55 60

Ala Ser Met Asp Leu Gly Met Thr Leu Thr Thr Met Pro Thr Val Leu  
65 70 75 80

Gly Val Leu Val Leu Asn Gln Arg Glu Ile Val His Gly Ala Cys Phe  
85 90 95

Ile Gln Ser Tyr Phe Ile His Ser Leu Ala Ile Val Glu Ser Gly Val  
                  100                 105                 110

Leu Leu Ala Met Ser Tyr Asp Arg Phe Val Ala Ile Cys Thr Pro Leu  
115 120 125

His Tyr Asn Ser Ile Leu Thr Asn Ser Arg Val Met Lys Met Ala Leu  
 130 135 140

Gly Ala Leu Leu Arg Gly Phe Val Ser Ile Val Pro Pro Ile Met Pro  
145 150 155 160

Leu Phe Trp Phe Pro Tyr Cys His Ser His Val Leu Ser His Ala Phe  
165 170 175

Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ala Asp Ile Thr Phe  
                  180                 185                 190

Asn Leu Ile Tyr Pro Val Val Leu Val Ala Leu Thr Phe Phe Leu Asp  
195 200 205

Ala Leu Ile Ile Ile Phe Ser Tyr Val Leu Ile Ile Leu Lys Lys Val Met  
210 215 220

Gly Ile Ala Ser Gly Glu Glu Arg Lys Lys Ser Ileu Asp Thr Cys Val

225

230

235

240

Ser His Ile Ser Cys Val Leu Val Phe Tyr Ile Thr Val Ile Gly Leu  
245 250 255

Thr Phe Ile His Arg Phe Gly Lys Asn Ala Pro His Val Val His Ile  
260 265 270

Thr Met Ser Tyr Val Tyr Phe Leu Phe Pro Pro Phe Met Asn Pro Ile  
275 280 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Arg Ser Ile Leu Arg Leu  
290 295 300

Leu Ser Lys His Ser Arg Thr  
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<210> 9

<211> 307

<212> PRT

<213> MOUSE

<400> 9

Met Trp Ser Asn Ile Ser Ala Ala Pro Phe Leu Leu Thr Gly Phe Pro  
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Gly Leu Glu Ala Ala His His Trp Ile Ser Ile Pro Phe Phe Ala Ile  
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Tyr Ile Ser Val Leu Leu Gly Asn Gly Thr Leu Leu Tyr Leu Ile Lys  
35 40 45

Asp Asp His Asn Leu His Glu Pro Met Tyr Tyr Phe Leu Ala Met Leu  
50 55 60

Ala Gly Thr Asp Leu Thr Val Thr Leu Thr Thr Met Pro Thr Val Met  
65 70 75 80

Ala Val Leu Trp Val Asn His Arg Glu Ile Arg His Gly Ala Cys Phe  
85 90 95

Leu Gln Ala Tyr Ile Ile His Ser Leu Ser Ile Val Glu Ser Gly Val  
100 105 110

Leu Leu Ala Met Ser Tyr Asp Arg Phe Val Ala Ile Cys Thr Pro Leu  
115 120 125

His Tyr Asn Ser Ile Leu Thr Asn Ser Arg Val Ile Ala Ile Gly Leu  
130 135 140

Gly Val Val Leu Arg Gly Phe Leu Ser Leu Val Pro Pro Ile Leu Pro  
145 150 155 160

Leu Phe Trp Phe Ser Tyr Cys Arg Ser His Val Leu Ser His Ala Phe  
165 170 175

Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ala Asp Ile Thr Phe  
180 185 190

Asn Arg Ile Tyr Pro Val Val Leu Val Ala Leu Thr Phe Phe Leu Asp  
195 200 205

Ala Leu Ile Ile Val Phe Ser Tyr Val Leu Ile Leu Lys Thr Val Met  
210 215 220

Gly Ile Ala Ser Gly Glu Glu Arg Ala Lys Ala Leu Asn Thr Cys Val  
225 230 235 240

Ser His Ile Ser Cys Val Leu Val Phe Tyr Ile Thr Val Ile Gly Leu  
245 250 255

Thr Phe Ile His Arg Phe Gly Lys Asn Ala Pro His Val Val His Ile  
260 265 270

Thr Met Ser Tyr Val Tyr Phe Leu Phe Pro Pro Phe Met Asn Pro Ile  
275 280 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Arg Ser Val Leu His Leu  
290 295 300

Leu Ser Val  
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<212> PRT  
<213> HUMAN

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Gly Leu Glu Ala Ala His His Trp Ile Ser Ile Pro Phe Phe Ala Val  
20 25 30

Tyr Val Cys Ile Leu Leu Gly Asn Gly Met Leu Leu Tyr Leu Ile Lys  
35 40 45

His Asp His Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Thr Met Leu  
50 55 60

Ala Gly Thr Asp Leu Met Val Thr Leu Thr Thr Met Pro Thr Val Met  
65 70 75 80

Gly Ile Leu Trp Val Asn His Arg Glu Ile Ser Ser Val Gly Cys Phe  
85 90 95

Leu Gln Ala Tyr Phe Ile His Ser Leu Ser Val Val Glu Ser Gly Ser  
100 105 110

Leu Leu Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Arg Asn Pro Leu  
115 120 125

Arg Tyr Ala Ser Ile Phe Thr Asn Thr Arg Val Ile Ala Leu Gly Val  
130 135 140

Gly Val Phe Leu Arg Gly Phe Val Ser Ile Leu Pro Val Ile Leu Arg  
145 150 155 160

Leu Phe Ser Phe Ser Tyr Cys Lys Ser His Val Ile Thr Arg Ala Phe  
165 170 175

Cys Leu His Gln Glu Ile Met Arg Leu Ala Cys Ala Asp Ile Thr Phe  
180 185 190

Asn Arg Leu Tyr Pro Val Ile Leu Ile Ser Leu Thr Ile Phe Leu Asp  
195 200 205

Ser Leu Ile Ile Leu Phe Ser Tyr Ile Leu Ile Leu Asn Thr Val Ile  
210 215 220

Gly Ile Ala Ser Gly Glu Glu Gln Thr Lys Ala Leu Asn Thr Cys Val  
225 230 235 240

Ser His Phe Cys Ala Val Leu Ile Phe Tyr Ile Pro Leu Ala Gly Leu  
245 250 255

Ser Ile Ile His Arg Tyr Gly Arg Asn Ala Pro Pro Ile Ser His Ala  
260 265 270

Val Met Ala Asn Val Tyr Leu Phe Val Pro Pro Ile Leu Asn Pro Val  
275 280 285

Ile Tyr Ser Ile Lys Thr Lys Gln Ile Gln Tyr Gly Ile Ile Arg Leu  
290 295 300

Leu Ser Lys His Arg Phe Ser Arg  
305 310

<210> 11  
<211> 319  
<212> PRT  
<213> CHICKEN

<400> 11  
Met Tyr Pro Arg Asn Ser Ser Gln Ala Gln Pro Phe Leu Leu Ala Gly  
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Leu Pro Gly Met Ala Gln Phe His His Trp Val Phe Leu Pro Phe Gly  
20 25 30

Leu Met Tyr Leu Val Ala Val Leu Gly Asn Gly Thr Ile Leu Leu Val  
35 40 45

Val Arg Val His Arg Gln Leu His Gln Pro Met Tyr Tyr Phe Leu Leu  
50 55 60

Met Leu Ala Thr Thr Asp Leu Gly Leu Thr Leu Ser Thr Leu Pro Thr  
65 70 75 80

Val Leu Arg Val Phe Trp Leu Gly Ala Met Glu Ile Ser Phe Pro Ala  
85 90 95

Cys Leu Ile Gln Met Phe Cys Ile His Val Phe Ser Phe Met Glu Ser  
100 105 110

Ser Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Cys  
115 120 125

Pro Leu Arg Tyr Ser Ser Ile Leu Thr Gly Ala Arg Val Ala Gln Ile  
130 135 140

Gly Leu Gly Ile Ile Cys Arg Cys Thr Leu Ser Leu Leu Pro Leu Ile  
145 150 155 160

Cys Leu Leu Thr Trp Leu Pro Phe Cys Arg Ser His Val Leu Ser His  
165 170 175

Pro Tyr Cys Leu His Gln Asp Ile Ile Arg Leu Ala Cys Thr Asp Ala

180

185

190

Thr Leu Asn Ser Leu Tyr Gly Leu Ile Leu Val Leu Val Ala Ile Leu  
 195 200 205

Asp Phe Val Leu Ile Ala Leu Ser Tyr Ile Met Ile Phe Arg Thr Val  
 210 215 220

Leu Gly Ile Thr Ser Lys Glu Glu Gln Thr Lys Ala Leu Asn Thr Cys  
 225 230 235 240

Val Ser His Phe Cys Ala Val Leu Ile Phe Tyr Ile Pro Leu Ala Gly  
 245 250 255

Leu Ser Ile Ile His Arg Tyr Gly Arg Asn Ala Pro Pro Ile Ser His  
 260 265 270

Ala Val Met Ala Asn Val Tyr Leu Phe Val Pro Pro Ile Leu Asn Pro  
 275 280 285

Val Leu Tyr Ser Met Lys Ser Lys Ala Ile Cys Lys Gly Leu Leu Arg  
 290 295 300

Leu Leu Cys Gln Arg Ala Ala Trp Pro Gly His Ala Gln Asn Cys  
 305 310 315

&lt;210&gt; 12

&lt;211&gt; 320

&lt;212&gt; PRT

&lt;213&gt; RAT

&lt;400&gt; 12

Met Ser Ser Cys Asn Phe Thr His Ala Thr Phe Met Leu Ile Gly Ile  
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Pro Gly Leu Glu Glu Ala His Phe Trp Phe Gly Phe Pro Leu Leu Ser  
 20 25 30

Met Tyr Ala Val Ala Leu Phe Gly Asn Cys Ile Val Val Phe Ile Val  
 35 40 45

Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met  
 50 55 60

Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile  
 65 70 75 80

Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Thr Phe Asp Ala Cys  
85 90 95

Leu Ala Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr  
100 105 110

Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro  
115 120 125

Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Val Gln Ile Gly  
130 135 140

Met Val Ala Leu Val Arg Gly Ser Leu Phe Phe Pro Leu Pro Leu  
145 150 155 160

Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser  
165 170 175

Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Thr Asp Thr Leu  
180 185 190

Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val  
195 200 205

Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Ala Val  
210 215 220

Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys  
225 230 235 240

Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly  
245 250 255

Leu Ser Val Val His Arg Phe Gly Asn Ser Leu Asp Pro Ile Val His  
260 265 270

Val Leu Met Gly Asp Val Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro  
275 280 285

Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala  
290 295 300

Met Phe Lys Ile Ser Cys Asp Lys Asp Ile Glu Ala Gly Gly Asn Thr  
305 310 315 320

<210> 13  
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<212> PRT  
<213> MOUSE

<400> 13  
Met Asn Ser Lys Ala Ser Met Leu Gly Thr Asn Phe Thr Ile Ile His  
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Pro Thr Val Phe Ile Leu Leu Gly Ile Pro Gly Leu Glu Gln Tyr His  
20 25 30  
  
Thr Trp Leu Ser Ile Pro Phe Cys Leu Met Tyr Ile Ala Ala Val Leu  
35 40 45  
  
Gly Asn Gly Ala Leu Ile Leu Val Val Leu Ser Glu Arg Thr Leu His  
50 55 60  
  
Glu Pro Met Tyr Val Phe Leu Ser Met Leu Ala Gly Thr Asp Ile Leu  
65 70 75 80  
  
Leu Ser Thr Thr Val Pro Lys Thr Leu Ala Ile Phe Trp Phe His  
85 90 95  
  
Ala Gly Glu Ile Pro Phe Asp Ala Cys Ile Ala Gln Met Phe Phe Ile  
100 105 110  
  
His Val Ala Phe Val Ala Glu Ser Gly Ile Leu Leu Ala Met Ala Phe  
115 120 125  
  
Asp Arg Tyr Val Ala Ile Cys Thr Pro Leu Arg Tyr Ser Ala Val Leu  
130 135 140  
  
Thr Pro Met Ala Ile Gly Lys Met Thr Leu Ala Ile Trp Gly Arg Ser  
145 150 155 160  
  
Ile Gly Thr Ile Phe Pro Ile Ile Phe Leu Leu Lys Arg Leu Ser Tyr  
165 170 175  
  
Cys Arg Thr Asn Val Ile Pro His Ser Tyr Cys Glu His Ile Gly Val  
180 185 190  
  
Ala Arg Leu Ala Cys Ala Asp Ile Thr Val Asn Ile Trp Tyr Gly Phe  
195 200 205  
  
Ser Val Pro Met Ala Ser Val Leu Val Asp Val Ala Leu Ile Gly Ile  
210 215 220

Ser Tyr Thr Leu Ile Leu Gln Ala Val Phe Arg Leu Pro Ser Gln Asp  
225 230 235 240

Ala Arg His Lys Ala Leu Asn Thr Cys Gly Ser His Ile Gly Val Ile  
245 250 255

Leu Leu Phe Phe Ile Pro Ser Phe Phe Thr Phe Leu Thr His Arg Phe  
260 265 270

Gly Lys Asn Ile Pro His His Val His Ile Leu Leu Ala Asn Leu Tyr  
275 280 285

Val Leu Val Pro Pro Met Leu Asn Pro Ile Ile Tyr Gly Ala Lys Thr  
290 295 300

Lys Gln Ile Arg Asp Ser Met Thr Arg Met Leu Ser Val Val Trp Lys  
305 310 315 320

Ser

<210> 14

<211> 326

<212> PRT

<213> MOUSE

<400> 14

Met Lys Val Ala Ser Ser Phe His Asn Asp Thr Asn Pro Gln Asp Val  
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Ile Ala Ile Pro Ile Cys Ser Met Tyr Ile Val Ala Val Ile Gly Asn  
35 40 45

Val Leu Leu Ile Phe Leu Ile Val Thr Glu Arg Ser Leu His Glu Pro  
50 55 60

Met Tyr Phe Phe Leu Ser Met Leu Ala Leu Ala Asp Leu Leu Leu Ser  
65 70 75 80

Thr Ala Thr Ala Pro Lys Met Leu Ala Ile Phe Trp Phe His Ser Arg  
85 90 95

Gly Ile Ser Phe Gly Ser Cys Val Ser Gln Met Phe Phe Ile His Phe

100

105

110

Ile Phe Val Ala Glu Ser Ala Ile Leu Leu Ala Met Ala Phe Asp Arg  
115 120 125

Tyr Val Ala Ile Cys Tyr Pro Leu Arg Tyr Thr Thr Ile Leu Thr Ser  
130 135 140

Ser Val Ile Gly Lys Ile Gly Thr Ala Ala Val Val Arg Ser Phe Leu  
145 150 155 160

Ile Cys Phe Pro Phe Ile Phe Leu Val Tyr Arg Leu Leu Tyr Cys Gly  
165 170 175

Lys His Ile Ile Pro His Ser Tyr Cys Glu His Met Gly Ile Ala Arg  
180 185 190

Leu Ala Cys Asp Asn Ile Thr Val Asn Ile Ile Tyr Gly Leu Thr Met  
195 200 205

Ala Leu Leu Ser Thr Gly Leu Asp Ile Leu Leu Ile Ile Ser Tyr  
210 215 220

Thr Met Ile Leu Arg Thr Val Phe Gln Ile Pro Ser Trp Ala Ala Arg  
225 230 235 240

Tyr Lys Ala Leu Asn Thr Cys Gly Ser His Ile Cys Val Ile Leu Leu  
245 250 255

Phe Tyr Thr Pro Ala Phe Phe Ser Phe Phe Ala His Arg Phe Gly Gly  
260 265 270

Lys Thr Val Pro Arg His Ile His Ile Leu Val Ala Asn Leu Tyr Val  
275 280 285

Val Val Pro Pro Met Leu Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys  
290 295 300

Gln Ile Gln Asp Arg Val Val Phe Leu Phe Ser Ser Val Ser Thr Cys  
305 310 315 320

Gln His Asp Ser Arg Cys  
325

<210> 15

<211> 318

<212> PRT

<213> MOUSE

<400> 15

Met Ser Pro Gly Asn Ser Ser Trp Ile His Pro Ser Ser Phe Leu Leu  
1 5 10 15

Leu Gly Ile Pro Gly Leu Glu Leu Gln Phe Trp Leu Gly Leu Pro  
20 25 30

Phe Gly Thr Val Tyr Leu Ile Ala Val Leu Gly Asn Val Ile Ile Leu  
35 40 45

Phe Val Ile Tyr Leu Glu His Ser Leu His Gln Pro Met Phe Tyr Leu  
50 55 60

Leu Ala Ile Leu Ala Val Thr Asp Leu Gly Leu Ser Thr Ala Thr Val  
65 70 75 80

Pro Arg Ala Leu Gly Ile Phe Trp Phe Gly Phe His Lys Ile Ala Phe  
85 90 95

Arg Asp Cys Val Ala Gln Met Phe Phe Ile His Leu Phe Thr Gly Ile  
100 105 110

Glu Thr Phe Met Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile  
115 120 125

Cys Asn Pro Leu Arg Tyr Asn Thr Ile Leu Thr Asn Arg Thr Ile Cys  
130 135 140

Ile Ile Val Gly Val Gly Leu Phe Lys Asn Phe Ile Leu Val Phe Pro  
145 150 155 160

Leu Ile Phe Leu Ile Leu Arg Leu Ser Phe Cys Gly His Asn Ile Ile  
165 170 175

Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Val  
180 185 190

Ser Ile Lys Val Asn Val Leu Phe Gly Leu Ile Leu Ile Ser Met Ile  
195 200 205

Leu Leu Asp Val Val Leu Ser Ala Leu Ser Tyr Ala Lys Ile Leu His  
210 215 220

Ala Val Phe Lys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn  
225 230 235 240

Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Phe Thr Pro Ala  
245 250 255

Phe Phe Ser Phe Leu Thr His Arg Phe Gly His Asn Ile Pro Arg Tyr  
260 265 270

Ile His Ile Leu Leu Ala Asn Leu Tyr Val Ile Ile Pro Xaa Ala Leu  
275 280 285

Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Gln Asp Arg Ala  
290 295 300

Val Thr Ile Leu Cys Asn Glu Val Gly Gln Leu Ala Asp Asp  
305 310 315

<210> 16

<211> 316

<212> PRT

<213> MOUSE

<400> 16

Met Ile Lys Phe Asn Gly Ser Val Phe Met Pro Ser Val Leu Thr Leu  
1 5 10 15

Val Gly Ile Pro Gly Leu Glu Ser Val Gln Cys Trp Ile Gly Ile Pro  
20 25 30

Phe Cys Val Met Tyr Ile Ile Ala Met Ile Gly Asn Ser Leu Ile Leu  
35 40 45

Val Ile Ile Lys Ser Glu Lys Ser Leu His Ile Pro Met Tyr Ile Phe  
50 55 60

Leu Ala Ile Leu Ala Val Thr Asp Ile Ala Leu Ser Thr Cys Ile Leu  
65 70 75 80

Pro Lys Met Leu Gly Ile Phe Trp Phe His Met Pro Gln Ile Ser Phe  
85 90 95

Asp Ala Cys Leu Leu Gln Met Glu Leu Ile His Ser Phe Gln Ala Thr  
100 105 110

Glu Ser Gly Ile Leu Leu Ala Met Ala Leu Asp Arg Tyr Val Ala Ile  
115 120 125

Cys Asn Pro Leu Arg His Ala Thr Ile Phe Ser Pro Gln Leu Thr Thr  
130 135 140

Cys Leu Gly Ala Gly Ala Leu Leu Arg Ser Leu Ile Thr Thr Phe Pro  
145 150 155 160

Leu Ile Leu Leu Ile Lys Phe Cys Leu Lys Tyr Phe Arg Thr Thr Ile  
165 170 175

Ile Ser His Ser Tyr Cys Glu His Met Ala Ile Val Lys Leu Ala Ala  
180 185 190

Gln Asp Ile Arg Ile Asn Lys Ile Cys Gly Leu Leu Val Ala Phe Ala  
195 200 205

Ile Leu Gly Phe Asp Ile Val Phe Ile Thr Phe Ser Tyr Val Arg Ile  
210 215 220

Phe Ile Thr Val Phe Gln Leu Pro Gln Lys Glu Ala Arg Phe Lys Ala  
225 230 235 240

Phe Asn Thr Cys Ile Ala His Ile Cys Val Phe Leu Gln Phe Tyr Leu  
245 250 255

Leu Ala Phe Phe Ser Phe Phe Thr His Arg Phe Gly Ala His Ile Pro  
260 265 270

Pro Tyr Val His Ile Leu Leu Ser Asp Leu Tyr Leu Leu Val Pro Pro  
275 280 285

Phe Leu Asn Pro Ile Val Tyr Gly Ile Lys Thr Lys Gln Ile Arg Asp  
290 295 300

Gln Val Leu Lys Met Phe Phe Ser Lys Lys Pro Leu  
305 310 315

<210> 17

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized  
peptide

<400> 17

Met Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile  
1 5 10 15

Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln

20

25

<210> 18

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized peptide

<400> 18

Arg Thr Glu His Ser Leu His Glu Pro Met Tyr

1

5

10

<210> 19

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized peptide

<400> 19

Asn Ser Thr Thr Ile Gln Phe Asp Ala Cys Leu Leu Gln Met

1

5

10

<210> 20

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized peptide

<400> 20

His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val Thr Lys

1

5

10

15

<210> 21

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized peptide

<400> 21

Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile Leu Ser His Ser Tyr Cys  
1 5 10 15

Leu His Gln Asp Val Met Lys Leu Ala Cys Asp Asp Asp Ile Arg  
20 25 30

<210> 22

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized peptide

<400> 22

Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala  
1 5 10

<210> 23

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized peptide

<400> 23

His Arg Phe Ser Lys Arg Arg Asp Ser Pro  
1 5 10

<210> 24

<211> 22

<212> PRT

### <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized peptide

<400> 24

Lys Thr Lys Glu Ile Arg Gln Arg Ile Leu Arg Leu Phe His Val Ala  
1 5 10 15

Thr His Ala Ser Glu Pro  
20

<210> 25

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Forward GPCR9 primer-

<400> 25

cctgtgctca acccaattgt ct

22

<210> 26

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Reverse GPCR9 primer-

<400> 26

actgacacct agggctctga ag

22

<210> 27

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: GAPDH-F3 forward primer

<400> 27

agccgagcca catcgct

17

<210> 28  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: GAPDH-R1  
reverse primer

<400> 28  
gtgaccaggc gcccaatac

19

<210> 29  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: GAPDH-PVIC  
Taqman(R) Probe

<400> 29  
caaatccgtt gactccgacc ttcacctt

28

<210> 30  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<400> 30  
cccaagcttg caccatgatg gtggatccca atggcattg

39

<210> 31  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HGPRBMY4 3'  
primer

<400> 31

gaagatctct agggctctga agcgtgtgtg gcc

33

<210> 32  
<211> 59  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HGPRBMY4 3'  
primer- Flag tag

<400> 32  
gaagatctct acttgcgtc gtcgtccttg tagtccatgg gctctgaagc gtgtgtggc 59

<210> 33  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 33  
Met Val His Arg Phe Ser Lys Arg Arg Asp Ser Pro Leu  
1 5 10

<210> 34  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 34  
Val Arg Thr Glu His Ser Leu His Glu Pro Met Tyr Ile Phe  
1 5 10

<210> 35  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 35

Phe Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile Ser Thr  
1 5 10

<210> 36

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 36

Ala Ile His Ser Leu Ser Gly Met Glu Ser Thr Val Leu Leu  
1 5 10

<210> 37

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 37

His Arg Phe Ser Lys Arg Arg Asp Ser Pro Leu Pro Val Ile  
1 5 10

<210> 38

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 38

Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile  
1 5 10

<210> 39  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 39  
Ile Ala Val Leu Gly Asn Leu Thr Ile Ile Tyr Ile Val Arg  
1 5 10

<210> 40  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 40  
Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln Phe Asp Ala  
1 5 10

<210> 41  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 41  
Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile Leu  
1 5 10 15

<210> 42  
<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 42

Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala Phe  
1 5 10 15

<210> 43

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 43

Ile His Ser Leu Ser Gly Met Glu Ser Thr Val Leu Leu Ala Met Ala  
1 5 10 15

<210> 44

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 44

Gln Ala Lys Ala Phe Gly Thr Cys Val Ser His Val Cys Ala Val Phe  
1 5 10 15

<210> 45

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 45

His Ser Leu Ser Gly Met Glu Ser Thr Val Leu Leu Ala Met Ala Phe  
1 5 10 15

Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg  
20 25

<210> 46

<211> 99

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Oligo 1;  
N=A+G+C+T; K=C+G+T

<400> 46

cgaagcgtaa gggcccgagcc ggccnnknnk nnknnknnkn nknnknnknn knnknnknnk 60  
nnknnknnkn nknnknnknn knnkccgggt ccgggcggc 99

<210> 47

<211> 95

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Oligo 2;  
N+A+G+C+T; V=C+A+G

<400> 47

aaaaggaaaa aagcgccgc vnnvnnvnnv nnvnnvnnvn nvnnvnnvnn vnnvnnvnnv 60  
nnvnnvnnvn nvnnvnnvnn gccgccccgga cccgg 95

<210> 48

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 48

Pro Gly Pro Gly Gly

<210> 49  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic 5'  
Primer

<400> 49  
gcagcagcgg ccgccagttc tggttggcct tcccatcg

38

<210> 50  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic 3'  
Primer

<400> 50  
gcagcagtcg acgggctctg aagcgtgtgt ggccac

36

<210> 51  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic 5'  
Primer

<400> 51  
gcagcagcgg ccgcatgtatgt gtggatccca atggcaatcg

39

<210> 52  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic 3'  
Primer

<400> 52

gcagcagtcg accttcactc catagacaat tgggttg

37

<210> 53

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 53

Gly Asp Phe Trp Tyr Glu Ala Cys Glu Ser Ser Cys Ala Phe Trp  
1 5 10 15

<210> 54

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 54

Cys Leu Arg Ser Gly Thr Gly Cys Ala Phe Gln Leu Tyr Arg Phe  
1 5 10 15

<210> 55

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 55

Phe Ala Gly Gln Ile Ile Trp Tyr Asp Ala Leu Asp Thr Leu Met  
1 5 10 15

<210> 56  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 56  
Leu Ile Phe Phe Asp Ala Arg Asp Cys Cys Phe Asn Glu Gln Leu  
1 5 10 15

<210> 57  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 57  
Leu Glu Trp Gly Ser Asp Val Phe Tyr Asp Val Tyr Asp Cys Cys  
1 5 10 15

<210> 58  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 58  
Arg Ile Val Pro Asn Gly Tyr Phe Asn Val His Gly Arg Ser Leu  
1 5 10 15

<210> 59  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 59

Trp Glu Arg Ser Ser Ala Gly Cys Ala Asp Gln Gln Tyr Arg Cys  
1 5 10 15

<210> 60

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 60

Tyr Phe Ser Asp Gly Glu Ser Phe Phe Glu Pro Gly Asp Cys Cys  
1 5 10 15